Ragulkanth **Ganapathi**

SOFTWARE ARCHITECT · FULL STACK DEVELOPER

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Education

University College of Engineering Villupuram (Anna University - Villupuram Campus)	*Villupuram, TmailNadu*
B.E. IN COMPUTER SCIENCE AND ENGINEERING	*Aug. 2013 - May. 2017*

Skills

Programming	Python, Clojure (Intermediate), Perl, R (Beginer), Web designing (HTML, CSS, JS), Java (Beginer), Shell Scripting, Rust (Beginer), C, C++
Back-end	Django, Flask, Falcon, Web2py, Pelican, Pedestal, REST API, Geonode
Front-end	HTML5, Angularjs (Beginer), React (Beginer), Bootstrap, Bulma, Skeleton
Data Visualisation	Terriajs, Timelinejs, Juxtapose, StorymapJs, Storylinejs, d3js, leafletjs, Chartjs
CMS & Wiki	Wagtail, Wordpress, dokuWiki, Ghost
Sysadmin	Bash scripting, awk, cron, systemd, ZFS
Operating Systems	GNU/Linux (Arch linux, Ubuntu, Fedora, Debian, RPI OS, OpenWRT Router Firmware), Windows, OSX
GIS	Geonode, QGIS, OpenGrads, SACP, GRASS, OSM Data, GDAL, Google Earth Engine, JOSM, PostGIS
RDBMS	Postgresql, MySQL, MariaDB, SQLite
NoSQL	MongoDB
Networking	ufw, OpenSSH, rsync, wireguard, Tor, OpenWRT, LetsEncrypt
Servers	Nginx, Apache, Gunicorn
Cloud	DigitalOcean, Hetzener, Linode, BlackBlaze, Amazon S3, Herokku
Containers, CI/CD	LXC, LXD, Gitlab CI/CD, Shell Scripts, Docker, Docker Compose
Build Systems	GNU Make, Leiningen, Maven, Arch Build System
Graphics Design	Inkscape, GIMP, Krita
Text Editors	Vim, Emacs
Other Softwares	Git, tmux, Arduino IDE, parallel

Experience (4 Years and 8 Months)

French Institute of Pondicherry
Puducherry

RESEARCH ENGINEER (2 YEARS) — *Jan. 2020 - Dec. 2021*

- Co-Developed and deployed the website of IFP using the CMS called wagtail.
- Deployed automatic backup system to ensure the availblity of the data and also to ensure the sychronisation of the production and the staging server interms of data, code and configurations (used cron, rsync and systemd).
- Created digital maps and visualisations with the acquired data sets after preprocessing and analysis.
- Deployed geonode which is a web based application and platform for developing geospatial information systems.
- Designed and developed different web based visualisations by using various js libraries like Terriajs, Timelinejs, Juxtapose, StorymapJs, Storylinejs, d3js, leafletjs and Chartjs.
- Applied different GIS analysis and remote sensing techniques to process a significant amount of sattelite images in which the tool parallel comes in handy when it comes to utilize all the cores of a processor.
- Deployed koha, a library management system.
- Deployed snipe-it, an inventory management system.

Coopon SciTech LLP
Puducherry

SOFTWARE DEVELOPER (2 YEARS 9 MONTHS) — *Apr. 2019 - Jan. 2022*

- Co-developed an OAIS compliant participatory platform for archiving of historical evidences (in the form of digital images) such as palm leaf manuscripts, inscriptions etc. for the scholars and the students of humanities.
- Designed and developed a platform for Renthub which will give the investment strategy by analyzing both the Renthub and Airbnb real estate market data.
- Worked with PiLock (an Opensource door locking system based on RasperryPi).
- Worked in the design and development of font dedicated for the diacritics indicate the complex mathematical fractions in the language tamil.
- Managing the infrastructure of the company that constituted wiki, blog, website, email server, nextcloud, etc.
- Deployed OpenLDAP Server for Centralized Authentication to a client company.

University of Toronto, Canada

Puducherry

RESEARCH ASSISTANT (2 MONTHS)

Aug. 2019 - Sep. 2019

- Worked with the Chennai Map project which involves in finding the delineation of Kosasthalaiyar River, calculating NDVI, LST and NO2 Pollution around Kosasthalaiyar watershed by understanding and analyzing the data from the satellite data which includes Landsat 5, Landsat 7, Landsat 8, Sentinel 5p, SRTM and ALOS-2.
- Effective deployment of GIS programming tools and skills using QGIS, PyQgis, GDAL, & Google Earth Engine for Watershed analysis.
- Visually represented analyzed results using open-source WebGIS library – Leaflet.js, to publish over the Web.

Ncomputing Sales & Marketing Pvt. Ltd.

Chennai, Tamilnadu

JUNIOR LINUX DEVELOPER (5 MONTHS)

Nov. 2018 - Mar. 2019

- Build process automation for Vspace for Linux.
- Integrated Guacamole, a web based vnc/RDP client for Verde.
- Extended Vspace for Linux to support RX300, RPi based thin client.
- Used Linux containers (LXD) and Docker containers for the build process automation.

Wideva Systems Pvt. Ltd.

Chennai, Tamilnadu

DEVOPS (1 YEAR 5 MONTHS)

May. 2017 - Nov 2018

- Integration of PayPal, a payment gateway which includes the generation of invoice using the API.
- cPanel Plugin to manage the paltform features from the cPanel dashboard itself.
- Designed a failover application server by making use of the VestaCP API which will be automatically/manually deployed in case of any disaster/compormise and the DNS system will be redirected to ensure the availability of the application.
- Designed an intuitive web based file explorer for the GIT based timemachine.
- Desingned a dashboard for the insights like storage usage, backup time, Number of DB backed up etc.
- Delivered many product specific REST API based micro services.

Code

ifpindia-website

python, django, wagtail, elasticsearch, postgresql

CO-DEVELOPER

Sep. 2020

- A CMS called wagtail based on django.
- Cleaning and formatting the data from the old drupal site.
- Implemented the search logic along the different models.
- Implemented the logics to present the pages such as bookstore, projects, pattrikka and search.

vattaaram

clojure, column, postgresql

CO-DEVELOPER

Jan. 2020

- OAIS complaint web application to store, process and archive the digital objects.
- Referred OAIS and Archivematica for the system archietecture
- Referred Dublin Core for the metadata standard.

JIPMER PPRG

clojure, column, postgresql

CO-DEVELOPER

Dec. 2019

- Web application for offline first tracking of last mile connectivity for JIPMER, Central Govt hospital's community health services.

rentalstats

clojure, column, leaflet, chartjs, postgresql

DEVELOPER

Oct. 2019 - Nov. 2019

- A GIS powered application to show the ROI projection on the realestate investments with respect to Airbnb and Renthub data.

openhardware-projects

3dprinting, arduino, rasperrypi

DEVELOPER

Sept. 2019 - Present

- Rasperry Pi based door lock system
- 3D printer and A CNC milling machine
- DIY Yagi antenna - To increase the range of the wifi in a point to point fashion
- PyMesh - A community based mesh network
- A community based weather station

wifiweb

python, flask, network-manager

DEVELOPER

Dec. 2018

- A flask application to control wifi by making use of the command line tool nmcli, part of Network Manager.

usbnotify

python, notify2, pyudev

DEVELOPER

Oct. 2018

- A script to detect when any block device is plugged in to the linux system and triggers a notifications with all the meta attributes associated with that block device.
- Bundled as a .deb package along with a startup script.

BountySite

web2py, flask, falcon, perl, php, rabbitmq, bootstrap, git, rsynci, postgresql, ELK

CO-DEVELOPER

May. 2017 - Nov 2018

- Bountysite - Website backup automation and Integrity Monitoring System.
- Designed the dashboard where one can find all the stats about the backup, restore, storage etc. for each site.
- Designed a simple file explorer which will let one to explore the files of different versions of the backup. In which I utilized the file MIME data to determine what type of file and display the relevant file icons and in case of text files used extension.
- Developed REST based APIs in which unleashed the power of falcon framework to integrate server managers like VestaCP, cPanel etc.
- Developed a plugin for cPanel in order to work with BountySite from the cPanel itself. cPanel uses perl as the primary language to create their plugins.
- Integrated the payment gateway, PayPal to the BountySite and also utilized its APIs to generate invoices.
- Co-developed a wordpress plugin.
- Significantly contributed to the features and functionalities like whitelabeling, cart, cart checkout, billing, applying promocode, RBACL, etc.
- Got my hands in experimenting with the ELK stack.

interest-calculator   *angularjs, nodejs, bootstrap*

DEVELOPER   *2017*

- A small application to calculate simple and compound interest based on the user input.

xcube-os-project   *linux, ubuntu16.04, chroot*

DEVELOPER   *2016*

- An operating system built based on Ubuntu 16.04 which is not customized in terms of UI but in availaible inbuilt/default applications.
- All the applications are chosen from the CSE syllabus (2013-2018) of Anna University. This process made use of tools like cdrtools, 7zip, squashfs-tools, chroot and mkisofs.

agnimithra2k16   *python, django, postgresql*

DEVELOPER   *2016*

- An event management system for the yearly symposium.
- Features include participant registration, admit card generation along with a QR Code. This application was assited by an offline python script which scans the QR code to track the attendance of the participants in various events and talks. All the data are updated from various clients to the server hosted at the local network in the college.

MAD (Make A Difference)   *python, django, cropperjs, postgresql*

DEVELOPER   *2015*

- The vision - a social platform which brings people in a college together which let the students to share their thoughts and materials related to their studies.
- Discontinued but was with the features like user management, profile picture cropping with cropperjs and a news feed.

buisops   *python, django, bootstrap*

DEVELOPER   *2015*

- A web application to manage tasks in the buisiness operation. Made this application as part of college mini project.
- This application makes use of django a web application framework and features authentication, user creation, task creation, task assignment, task update and finally a tasks dashboard.

annauniv-result-pdf   *python, flask, beautifulsoup, python-requests, bootstrap*

DEVELOPER   *2015*

- A simple flask application which will scrap the data from the Anna University student portal and render the semester result into a pdf file.
- Behind the screens it will post the data such as regn. no and birth date into anna university server, then receive the response as html which will be parsed by the beautifulsoup library in order to get the results and the result will be rendered into a pdf.

Presentations and Talks

Sep. 2021	**Introduction to FOSS and It's relevance in IT Industry**, SFD 2021 Hackathon, FSHM, LRCM	*Puducherry, India*
Feb. 2021	**Book: The Machine is Learning**, Weekly Colloquium, French Institute of Pondicherry	*Puducherry, India*
Dec. 2019	**Coding as Craft**, Craft Workshop, French Institute of Pondicherry	*Puducherry, India*
Sep. 2019	**Python, AI and ML**, NPR Engineering College, Dinduigul	*Tamilnadu, India*
Feb. 2019	**Linux Containers and Dockers**, St.Joseph Institute of Technology, Chennai	*Tamilnadu, India*
Aug. 2018	**Web application using Python and Flask**, FSFTN's 3-day Tech Synergy Bootcamp 2k18, LICET, Chennai	*Tamilnadu, India*
Jul. 2018	**Pelican for Blogging**, FSMK's Residential Camp for Young Activists, BIT, Beary	*Karnataka, India*
Mar. 2018	**Python Programming**, Mailam Engineering College, Mailam	*Tamilnadu, India*
Feb. 2018	**Python and Django**, Rajalakshmi Institute of Technology (RIT), Chennai	*Tamilnadu, India*
Oct. 2017	**Shell Scripting**, Loyola ICAM College of Engineering and Technology (LICET), Chennai	*Tamilnadu, India*

Community Work

Free Software and Hardware Movement Puducherry
Puducherry, India

EXECUTIVE COMMITTEE MEMBER
2017 - Present

- Co-ordinated weekly technical meetups & workshops
- Co-ordinated the online petition campaign in response to IT Ministry's RFC on draft policy
- Organized Software Freedom Day between 2017 and 2021
- Co-created, edited podcasts on communicating socio-technical issues
- Mentored multiple college students into programming & technical self learning
- Delivered my technical expertise on the various community projects such as pymesh, community weater station, web application for the signature campaign, etc.

UCEV GNU/Linux Users Group
Tamilnadu, India

EXECUTIVE COMMITTEE MEMBER
2014 - 2017

- Coordinated weekly technical meetups & workshops.
- Organized the Software Freedom Day 2017.
- Deleivered sessions on various FOSS tools and Programming languages.
- Co-ordinated 2 days workshop on FOSS, Summer Camp 2k16.

Villupuram GNU/Linux Users Group
Tamilnadu, India

EXECUTIVE COMMITTEE MEMBER
2014 - 2017

- Coordinated weekly technical meetups & workshops
- Organized the Software Freedom Day 2015
- Volunteered the Software Freedom Day 2018 and 2019
- Volunteered FOSS camps conducted bt FSFTN
- Represented VGLUG as a delegate in 4CCon by FSMI

Writing

Personal Blog
https://blog.ragulkanth.dev

AUTHOR
Mar. 2014 - PRESENT

- Installing Arch Linux in an encrypted medium (USB 3.0 Pendrive)
- Connecting to Wifi using Terminal
- Gitpages/Blog using Python and Pelican
- Dive into Free Software

Program Committees

2020-21	**Trustee**, Research Organisation for Social Action	*Puducherry, India*
2017-21	**Co-Ordinator**, Software Freedom Day - A Yearly festival on celebrating FOSS	*Puducherry, India*
2017-21	**Executive Committee Member**, Free Software and Harware Movement Puducherry	*Puducherry, India*
2016	**Co-Ordinator**, Summer Camp - A two days camp on Technology and Freedom	*Tamilnadu, India*
2016	**Co-Ordinator**, Agnimithra 2k16, A Yearly Symposium at UCEV	*Tamilnadu, India*
2015-17	**Executive Committee Member**, Villupuram GNU/Linux Users Group	*Tamilnadu, India*
2014-17	**Co-Founder and Co-Ordinator**, UCEV GNU/Linux Users Group	*Tamilnadu, India*

Honors & Awards

INTERNATIONAL

2020	**Finalist**, Hacktoberfest 2020	*GitHub*
2018	**Finalist**, Hacktoberfest 2018	*GitHub*

DOMESTIC

2018	**Runner Up**, Tech Coopathon by International Cooperative Alliance, Kerala Startup Mission & ULTS	*Kozhikode, Kerala*